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Service Paper

A SURVEY OF NURSERY SCHOOL CHILDREN'S INTEREST IN CREATIVE ACTIVITIES

Submitted by

Alice Johnson Goss

(B. S., Boston University, 1946)

In partial fulfillment of requirements
for the degree of Master of Education

1948

First Reader: Dr. Helen A. Murphy, Associate Professor of Education

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INTRODUCTION

This study is a survey of the use of seven types of materials in a nursery school creative period in a South End, Boston nursery. The materials studied are; (1) cutting and pasting, (2) easel paint, (3) finger painting, (4) books, (5) beads, (6) crayons and (7) blocks. Books are included in this study as the children are free to go to the library table any time they choose throughout the day. The comparisons made will be based on the individual's choice of materials, the length of time he uses a material and number of times he selects the same material. The study continued twenty days for a group of three -year-old children and twenty-three days for a group of four year olds.

In this study, the term "interest-span" is used to mean the length of time the subject spent with a particular material.

CHAPTER I

SUMMARY OF PREVIOUS RESEARCH

A. PLAY MATERIALS AND CREATIVE EXPRESSION

Carefully planned play encourages good habits in children of nursery-school age. They do not fool aimlessly, tease or quarrel when they are busy with something that interests them. Construction materials such as blocks, clay, and paper induce real thinking.

Hartman[1] suggests that until the age of six, play is considered a legitimate educational factor. As the child develops through play, this development should not be left to chance influences. Play must be creative not dictated and always come from the child's inner purposes. The play impluse and the art impluse are very close; therefore, it is possible to develop the natural activities into significant art values.

Alschuler[2] reports that much forethought should be put into the selection of play materials as they are an important force in children's lives. When planning a program, provision should be made for different types of play materials in order to make a well-rounded program that will satisfy the young children's needs and interests. She suggests the following materials for constructive and creative play for two to six years: large wooden blocks, clay, clay boards and sticks, easel paints, scissors, finger paints and others that do not pertain to this study.

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1. Hartman, Gertude, The Child and His School, E.P. Dutton Company, New York, 1922, pp. 69-71, 77-80.
2. Alschuler, Rose, Two to Six, William Morrow and Company, New York, 1937, p. 102-110.

Powdermaker and Grimes, as a result of observing the difficulties of children, report "A child needs materials to use in his creative play just as much as an actor needs props."[1] Certain raw materials are more suitable for children's play as they can be put to a greater number of different uses. Large blocks may become trains, barns, houses, streetcars, bridge or tunnel. Blocks may be used for both indoor and outdoor play. Specific materials for indoors listed include paper, blunt scissors, large beads, paint and clay. Simple toys give the most pleasure to the young child.

The authors say various mental changes occur as the child grows from two to three years of age, from three to four and from five to six. His attention increases. He spends more time with materials as he is more interested, shows greater curiosity and is more observant of what is happening around him. Block building becomes more detailed. The three year old builds a hollow house and plays with it for only a short time after it is finished even though it may have taken him half-an hour to build it. The four year old's house may have several floors, windows, or two steps or a walk. It may also have outside buildings near it such as a barn or garage. The work of the five year old which is more elaborate might be a complete city or town. The play interest of this design often lasts several days.

Driscolls[2] study shows that when too great an emphasis is placed

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1. Powdermaker, Florence and Grimes, Louise Ireland, Farrar and Rinehart, Inc., New York, p.188, 1940.
2. Driscoll, Gertude, How to Study Behavior of Children, Bureau of Publications, Teachers College, Columbia University, New York, 1941, pp.10-12.

on reproducing a realistic form many children lose their creative expression in form and color. The author says the emphasis should be on work rather than form. Children relax, enjoy and are interested in the art period when they have a chance to be free in color experimentation. Some colors and combinations seem to appeal to them more than others in the beginning of creative expresion.

Driscoll writes that soon form will come into creative expression. This, she says, will be more an expression of mood than a reproduction of object. The author feels that the teacher should encourage the children to enjoy and experiment at this stage of development and the teacher should not evaluate the results. The same mood may appear over and over when the child becomes freely expressive in form and color. Driscoll says this repetition may give a clue to the individual's dominant mood. Children are freer with powder paints and large brushes and finger paints as they require little skill. Driscoll writes; "Finger paints are now being advocated in place of brush paint."[1] This is because finger paint is more within the range of the child's ability.

Wolff,[2] one of the first psychologists to consider development and expression in the beginning years of the dynamic personality paint of view, records (as a result of studying and analyzing various data) that play is a dominant factor in a child's life. Children's emotions are dislodged in play - (tension, fear, need for security or protection). The projection

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1. Driscoll, Gertude, How to Study the Behavior of Children, Bureau of Publications, Teachers College: Columbia University, New York, pp.10-11.
2. Wolff, Werner, Personality of the Preschool Child, Grune and Stratton, New York, 1946 pp. 70-90, 204-5.

of these fears and wishes of the group form a band out of which a leader emerges. Therefore, the social influences of play on the young child are very important.

He says finger painting shows the characteristic movement pattern of the child. It brings forth a visual and emotional response. The child's rhythm appears in the pattern of lines over the paper. The choice of color along with the pattern may give some diagnostic hint.

To quote Wolff, "The graphic reflection of expressive movements, being a translation into another medium of expression, offers an especially valuable tool of analyzing the child's personality."[1] This technique of interpretation requires special training. Wolff says "the concept of art as imitation is alien to the young child as the concept of art for art's sake, for child art is self-expression."[2]

In 1943, a research project on the curriculum of childhood and youth was conducted by the Horace Mann-- Lincoln Institute School of Experimentation.[3] The report is that the preschool child's creative work is fanciful. Sometimes it represent an original idea but much of it is a tangible form of imagination. Often after the completion of a painting or other art work, the child uses his imagination to give it a name. This is useful as imagination helps to provide zest and interest which he

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1. Wolff, Werner, Personality of the Preschool Child, Grune and Stratton, New York, 1946 pp. 205.
2. Wolff, Werner, p. 205.
3. Jersild, Arthur T. and Associates (Chayer, Mary E.; Fehlman, Charlotte; Hildreth, Gertude; Young, Marion): Child Devlopment and the Curriculum, Bureau of Publications, Teachers College, Columbia University, New York, 1946, p. 88-93.

will use later in play or with other people. Imagination is important to art on all levels, but it is particularly useful in the beginning when the child tries to paint or do block building. If a child is free from having to make exact reproductions of a model or demanded to refine his techniques, he will be freer to practice the beginning forms in all art media. It is important for him to experiment, get satisfaction from his work and desire to go ahead. It is reported that the child will feel the urge to use the different art media if he is given crayons, paints, and scissors. Art for the young child should not be formal drills according to a model or the opposite extreme. The child should be allowed to experiment, then be stimulated and guided so that he may get the maximum value and enjoyment from his creations. There must be many opportunities provided for the child to achieve. Jersild feels that, in painting, children are likely to welcome suggestions about the following: how to keep the brush clean to avoid mixing colors, how to mix paints, or how to keep the paint from running down or dripping. This is contrary to the belief of some, that children should not be shown any techniques as suggested here.

Arlow[1] writes that finger painting has value in treating children with neuroses and behavior problems. It makes the emerging fantasy easier. In psychotherapeutic treatment, finger painting is a record of treatment and is an objective measure of the progress of treatment.

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1. Arlow, J. A. and Kadis A., "Finger Painting in Psychotheraphy of Children", American Journal of Ortho-psychiatry, 1946, 16: 134-146.

B. CHOICE OF MATERIALS

Hulson and Reich[1] observed the free play of a pre-school laboratory group. They studied children's choices and use of blocks and other play material. Blocks were found to be the favorite play material for the four-year-olds. Questionnaires were given to the parents to find out if the play materials at home had anything to do with their choice of blocks. Six of the ten children studied played often with blocks at home. In this study the choice of six sizes of blocks was given to the children. The 4 x 2 x 1 inch block was the most popular size with the group.

Hulson and Reich[2] report the following result of the Iowa Child Welfare Research Station, State University of Iowa, study of the significance of play material. Materials used were blocks, kiddykars, dishes, toy animals, picture books, scissors, crayons, paper, dolls, see-saw, sand table, aquarium, house corner, and blackboard. Twenty-four pre-school children were observed one hour daily during the free play period. The materials in this study were only available at this time. Blocks were repeatedly the first choice of the children in this undirected play period. Hulson and Reich report blocks as a valuable play material when adapted to the child's developmental stage.

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1. Hulson, Eva Leah and Reich, Helen L., "Blocks and the Four-Year-Old", Childhood Education, 8: 66-68.

2. Hulson, Eva Leah and Reich, Helen L., "Building Blocks and Children's Play", American Childhood, 17: 13, 58, January, 1932.

Van Alystyne[1] studied play behavior and choice of play materials of pre-school children in the Winnetka Public School Nursery and the Winnetka Kindergarten. She reports interest in all materials used, and says there is a gradual change of interest in play materials. The subjects used were 18 two-year-olds, 35 three-year-olds, 28 four-year-olds, and 65 five-year-olds. She found painting and modeling materials of interest to both boys and girls. Blocks were more popular with the boys. Clay, blocks, and the doll corner were of outstanding interest to all age levels.

Alschuler[2] studied and observed the play behavior and choice of play materials for two, three, four, and five-year-old children. Twenty-five materials were offered, and the children were allowed free choice of materials. Clay, paint, doll-corner material and blocks were used the longest in contrast to dishes, dolls, blox-that-lox, and balls. Boys preferred blocks, small cars, wagons, and dump trucks and clay. Crayons, scissors, dolls and doll-corner materials interested the girls most. Scissors and finger paints were recommended for some children three years of age provided proper supervision was given.

McVickar[3] studied the behavior of twenty visually-handicapped pre-school children in a nursery school for such children for 40 weeks each year for five years. She reports the voluntary behavior of these subjects,

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1. Van Alstyne, Dorothy, Play Behavior and Choice of Play Materials of Pre-school Children, Chicago, University of Chicago, 1932.

2. Alschuler, Rose, Two to Six, William Morrow and Company, New York, 1937, pp. 102-110.

3. McVickar, Olive Bowditch, A Study of the Voluntary Behavior of Twenty Visually Handicapped Preschool Children, unpublished Ed. M. Thesis, Boston University, 1940.

some totally blind and some partially seeing, as individuals, and as a group. These children studied had no complicating factors other than blindness. Six were totally blind and living at the Nursery at the time of the observation. The remaining fourteen of the group had partial vision. Of this group, one lived at home and came to Nursery School each day at 9 a.m. and remained until 4 p.m.; two lived at the Nursery but spent vacations at home; four lived at the Nursery and went home only for the long vacations as they lived so far away; these children lived at the Nursery with occasional visits to the home of a teacher or other children. One child lived continually at the Nursery except for an occasional visit to the home of a teacher, as it was not advisable for him to go home at any time.

McVickar states that the choice of materials for indoors and out, and the creative materials were based wholly on the child's preference. She checked the following outdoor materials: swings, tricycles, carts, shovels, and large wooden building blocks. She omitted roller skates because they were generally popular with both blind and partially-seeing children. Pegs, parquetry forms, puzzles, and dolls were checked for indoors. Of the creative materials, finger paint was omitted on days observations were made because it was of general interest to both groups.

The author reported the distribution of choice of the following creative materials: blocks, clay, paint, crayons, and carpentry. In the three-year-old, totally-blind group, blocks were first choice for two children, second choice for two, and third choice for one. Three children had clay as first choice and two for second choice. Four children gave paint fourth place and one gave it fifth place. Crayons were third choice

for one child and fifth choice for four. One gave carpentry materials second choice, three children third choice and one fourth choice. The order of preference as a result of this study is: (1) clay, (2) blocks, (3) carpentry, (4) paint and crayons. McVickar feels that the totally-blind child prefers tangible tactual materials; therefore, clay and blocks came first, and carpentry next. Many chose paint (fourth place) for the motion which they thoroughly enjoyed although they did not see the color. She feels that crayons were chosen for the same reason but less frequently.

Blocks were less frequent with the four-year-old, totally-blind children. Their preferences are as follows: (1) clay, (2) carpentry, (3) blocks, (4) paint, (5) crayons. Interest in carpentry material increased. This was true with the five-year-olds also. McVickar lists clay first, then carpentry, blocks, paint and crayons with the preferences of partially-seeing children. She reports the choice of partially-seeing three-year-olds in the following order: paint, clay, crayons, blocks, and carpentry; for the partially-seeing four-year-olds: paint, carpentry, clay, crayons, and blocks; the five-year-olds: carpentry, paint, crayons, clay, and blocks.

McDowell and Howe[1] report as a result of the study of fifty pre-school children, two to four years of age, and their use of play materials. This study was done at the Pennsylvania State College in the nursery school of the home economics department. Materials used were blocks, paints, and clay. The IQ average of the children in this study was 117.0 for the boys

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1. McDowell, Marion Sill and Howe, Sarah Ruth, "Creative Use of Play Materials by Preschool Children," Childhood Education, 17:321-326, (March 1941).

and 118.9 for the girls. The difference of choice or amount of creativeness with blocks for the boys and girls was not significant. Girls chose paint more often and used it more creatively. There was a positive correlation between the degree of creativeness and use of material of the pre-school children of this study. The correlation co-efficient reported in determining the relationship of age and creative use of material was, for paints, .34 $\pm$ .05; for blocks, .26 $\pm$ .04. The correlation co-efficient between intelligence quotient and the creativeness of the material (clay, blocks and paints) combined was .15 $\pm$ .03.

C. INTEREST-SPAN

"Perseverance," "attention-span," "usage-span," "ability to concentrate," "concentration-span," and "persistence" are other words used, in studied of young childrens' interest in play materials and creative activities, instead of "interest-span."

Bertrand[1] was the first to have a study published using pre-school subjects. He studied 36 children, an equal number of girls and boys, with ages varying from two years two months to six years of age. The Montessori method of instruction was used. The children were allowed their choice of a number of educational toys displayed on the classroom table. They were allowed to play with the game as long as they desired. The time spent with a toy increased with the child's age (girls: 3 to 4 years, 10 minutes; 4 to 5 years, 21 minutes; 5 to 6 years, 26 minutes; and boys: 3 to 4 years, 10 minutes; 4 to 5 years, 11 minutes; 5 to 6 years,

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1. Bertrand, Francois-Louis, "Contribution A L'Étude Psychogenetique de L'Attention," L'Anneé Psychologique: Vingt-Sixiéme Année, 1925, Paris, Libraire Felix Alcan, p. 155-158.

24 minutes.) The study showed no sex differences at the three- to four-year-old level. In the four- to five-year group the girls' interest was greater than the boys. The girls were still in the lead 24/26 at the age of 5 and 6.

Bridges[1] studied ten children from two and one-half years to three years and eight months (two years and eleven months was the average age at the beginning of the observations). The average Stanford-Binet IQ of the group was 106. The average for the boys was 104 and for girls 109. Bridges reports the length of time of interest in an occupation for three-year-old children is 8 minutes. For boys the interest-span is generally 7 minutes, and usually 9 minutes for girls.

Bridges[2] studied the occupational interests of four-year-old children during the free play period. She found that six minutes was the usual time spent with one occupation. Bridges also reported in her previous study that three-year-olds usually spent eight minutes with an occupation. The author found some three-year-olds working with a material more than twenty-five minutes. However, this occurs less frequently with three-year-olds than with four-year-old children. About thirty-five minutes was the longest time spent with one set of materials. This was much the same in both groups.

Brown[3] concluded, from her laboratory study of attention of twenty-five-year-old children for ten days each, that concentration of attention

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1. Bridges, K. M. Banham, "Occupational Interests of Three-Year-Olds," J. Genetic Psychology, (1927), 34:415-423.
2. Bridges, K. M. Banham, "The Occupational Interests and Attention of Four-Year-Old Children," Pedagogical Seminary and Journal of Genetic Psychology, (December 1929), 36:551-570.
3. Brown, Muriel, "Continuous Reaction As A Measure of Attention," Child Development, (December 1930), 1:287.

appears to depend greatly on the emotional stability of a child.

Farewell[1] studied the reactions of 81 kindergarten children, 107 first-grade children, and 79 second-grade children to specific constructive materials for thirty minutes a day for fourteen days. These materials remained constant-modeling materials (clay, plasticine and wet sand), building materials (various sizes of blocks and pegs), drawing, painting, and sewing materials, cardboard-constructive and paper-constructive materials. In her studies of interests of boys and girls in two schools she found a similarity of interests in both schools and in both sexes. While girls were more interested in furniture and humans, the boys were more interested in vehicles.

Herring and Kock[2] observed the reactions of 40 two-year-olds and 40 four-year-old children to a set of playthings. The interest-span appears to increase with age and it varies with the type of toy and the child's age.

Van Alstyne[3] discovered in her study of play behavior and choice of material for pre-school children that the length of the attention-span increased consistently from year to year. The average attention-span for all materials ranged from 6.9 minutes for the two-year-old group, 8.9 minutes for the three-year-olds, 11.4 for the four-year-olds, and 12.6 minutes for five-year-old children.

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1. Farewell, Louise, "Reaction of Kindergarten, First- and Second-Grade Children to Constructive Materials," Genetic Psychology Monographs, (1930), Vol. VIII, Nos. 5-6, pp. 431-554.
2. Herring, Amanda and Kock, Helen Lois, "A Study of Some Factors Influencing the Interest Span of Preschool Children," Pedagogical Seminary and Journal of Genetic Psychology, (December 1930), 38:249-279.
3. Van Alstyne, Dorothy, Play Behavior and Choice of Play Materials of Preschool Children, Chicago: University of Chicago, (1932).

Schacter[1] observed the attention-span of 36 three-, four- and five-year-olds and noted their responses to six different situations. She found no appreciable differences in attention in these groups. She believes that the average attention-span of a pre-school child is within the range of eight to twelve minutes. The time spent with a material depends on the activity. In this study, the girls had a larger attention-span than the boys. She reports that with increasing age this difference of attention between sexes decreases.

McDowell[2] studied and observed 20 children, ages two to four years, for 15 observational hours to determine the frequency of the choice and use of play materials as well as the attention-span. A record sheet was kept to show the exact time the child began and finished using a material or toy. In this way she measured the attention-span.

Jersild and associates[3] report that there are no exacting attention-span norms at any level--pre-school or later. The attention of a child varies with different situations. This may vary from a few seconds to more than an hour. There is substantial evidence of the increase of attention-span from year to year at the different age levels, when similar observations and criteria are used.

The author reports one investigation where the average attention rose from 6.9 minutes at two years to 12.6 at five years of age. He states in

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1. Schacter, Helen S., "A Method for Measuring the Sustained Attention of Preschool Children," The Pedagogical Seminary and Journal of Genetic Psychology, (1933), 42:339-367.
2. McDowell, Marion Sill, "Frequency of Choice of Play Materials by Pre-School Children," Child Development, (1937), 8:305-310.
3. Jersild, Arthur T. and Associates, (Tehlman, Charlotte; Hildreth, Gertrude; and Young, Marion), Child Development and the Curriculum, Bureau of Publications, Teachers College, Columbia University, New York, (1946), pp. 83-84.

another study for the same period that there was a rise from 19.4 to 23.82 and still another rise from 2.5 at two years of age to 5.6 at four. This shows that even though the setting was different and also the criteria, the attention-span is approximately doubled from two years to four years.

A report from the Faculty-University School, Ohio State University[1] states that children from three to six years of age, both girls and boys, have similar interests. They are energetic and curious. Their art work is created through the senses. The three-year-old child is more interested in the use of material-expression, construction, and some detail. This develops more at each level. The child's interest depends upon the kind of experiences he has in his home and in his community, also the variety of situations.

McVickar[2] studied blind and partially seeing preschool children. She found that these children were generally interested in finger painting. It was so popular that it was omitted from this study. She felt that in order to get a real measure of a child's attention, the child must voluntarily choose the material presented. The child could return and change the material at will. McVickar found with the totally blind the attention span increased with age. Those children with long active attention spans among the totally-blind children were of longer duration than the same type of attention with the partially-seeing child. The

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1. Ohio State University: The Faculty-University School: How Children Develop, The Ohio State University, Columbus, Ohio 1946
2. McVickar, Olive Bowditch, A Study of the Voluntary Behavior of Twenty Visually Handicapped Preschool Children, unpublished Ed. M. Thesis, Boston University 1940 p. 19, 42-45.

five totally blind children had an unusual capacity to maintain attention. This is significant for teaching the blind says the author. In this study, it seemed evident that the totally-blind, three-or four-year old child with a short active attention span only needed encouragement to continue his interest in order to have a longer span.

From this research, it is evident thatdifferent groups of children have shown different interests. This study is an attempt to study the interests of Nursery School Children in creative activities.

CHAPTER II

I PLAN OF STUDY

A. PROBLEM

The problem of this study is to record children's choices of creative materials and the interest-span of these children, ages three and four years old, during the creative activity period in a philanthropic nursery school.

B. SELECTION OF SUBJECTS

The children in the three-year-old and four-year-old groups of a South End, Boston philanthropic nursery school were observed. The children in the kindergarten were omitted from this study. The children arrive between quarter past eight and nine o'clock in the morning and remain through lunch, afternoon nap and milk. They start departing at three-thirty in the afternoon with the greatest number leaving between four fifteen and five o'clock; the last child generally leaves around quarter past five.

The children studied are of all races, creeds, and nationalities and of low social-economic family status. Many of the children are from bilingual homes. One three-year-old and one four-year-old speak Chinese only. The four-year-old understands a little English although she cannot speak it. She was very cooperative and acted as an interperter for the observer and her brother who was also very cooperative.

Six weeks of observations or 990 observations had been planned for this study of three and four-year-old children during the creative activity period of each group. The group as a whole was never present during the time the observations were made as many had colds and an

CHAPTER II

I. PLAN OF STUDY

A. PROBLEM

The problem of this study is to record children's choices of creative materials and the interest-span of these children, ages three and four years old, during the creative activity period in a multiethnic nursery school.

B. SELECTION OF SUBJECTS

The children in the three-year-old and four-year-old groups of a South San, Boston Multiethnic nursery school were observed. The children in the kindergarten were omitted from this study. The children arrive between seven-fifty and nine o'clock in the morning and remain through lunch, afternoon nap and milk. They start departing at three-thirty in the afternoon with the greatest number leaving between four fifteen and five o'clock; the last child generally leaves around quarter past five.

The children studied are of all races, creeds, and nationalities and of low socio-economic family status. Many of the children are from bilingual homes. One three-year-old and one four-year-old speak Chinese only. The four-year-old understands a little English although she cannot speak it. She was very cooperative and acted as an interpreter for the observer and her brother who was also very cooperative.

Six weeks of observations or 180 observations has been planned for this study of three and four-year-old children during the creative activity period of each group. The group as a whole was never present during the time the observations were made as many had colds and an

epidemic of mumps was present. The sudden illness of one of the teachers, together with the foregoing, caused the writer to lose many observations. As a result this study has been limited to 395 observations.

C. OBSERVATIONAL TECHNIQUE

The subjects who were not at school last year or at the summer nursery camp were introduced to the materials. Only one of 10 three-year-old children had used materials other than blocks, crayons, and beads before attending our school or our summer nursery camp. Of the 13 four-year-olds, only three had never been to nursery school or our nursery school summer camp (children lived here for approximately two months) and had never become familiar with all materials offered. One of these three was never given crayons or pencil and paper to use at home according to his mother's report. His nursery school experience with crayons was his first. Daily records were made of the choice of materials and the number of times an individual chose the material during the creative period.

Because of the inconveniences and difficulty of recording data all during the day, observations were recorded only in the creative activity period. The selection of materials was free and voluntary on the part of the child. If all the materials were in use, the child chose another. In the beginning cutting and pasting was to be reported together. Many of the children chose cutting along and pasting alone so that the item had to be further classified in the three-year-old group as (a) cutting and pasting, (b) cutting only, and (c) pasting only. Further classifications of the item for the four-year-old group are (a) tracing and cutting, (b) tracing, and (c) cutting and pasting. In this study, "tracing" means the child used a crayon or pencil to draw a figure or object, cut it out

and use it as a pattern to make others. All patterns were original creations by the four-year-old children.

The average length of the creative activity period for the four-year-old group was 55.13 minutes and 21.9 minutes for the three-year-old group.

Samples of observational records follow.

OBSERVATIONAL RECORD

THREE YEAR OLDS

	CUTTING ONLY	CUTTING AND PASTING	FINGER PAINT	EASEL PAINT	BLOCKS	BEADS	CRAYONS	CLAY	BOOKS
Lorraine A.									
Thomas C.									
Mary Ann C.									
Mary D.									
Sandra L.									
James M.									
John R.									
Robert W.									
June W.									
Bruce W.									

OBSERVATIONAL RECORD

FOUR YEAR OLDS

	CUTTING, TRACING AND PASTING	CUTTING AND TRACING	PASTING ONLY	CUTTING ONLY	CUTTING AND PASTING	FINGER PAINT	EASEL PAINT	BLOCKS	CRAYONS	CLAY	BOOKS
Danny C.											
Michael C.											
David D.											
Barbara F.											
Thomas H.											
Helen K.											
Billie L.											
Victor P.											
Barry R.											
Pauline R.											
Gerry S.											
Howard W.											
Layette W.											

INDIVIDUAL OBSERVATIONAL RECORD

TIME AND CHOICE OF MATERIALS

THREE YEAR OLDS

SUBJECTS NAME	CUTTING ONLY	CUTTING AND PASTING	FINGER PAINT	EASEL PAINT	BLOCKS	BEADS	CRAYONS	CLAY	BOOKS
DAYS									
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

INDIVIDUAL OBSERVATIONAL RECORD

TIME AND CHOICE OF MATERIALS

FOUR YEAR OLDS

SUBJECTS NAME	CUTTING, TRACING AND PASTING	TRACING AND PASTING	PASTING ONLY	CUTTING ONLY	CUTTING AND PASTING	FINGER PAINT	EASEL PAINT	BLOCKS	BEADS	CRAYONS	CLAY	BOOKS
DAYS												
1												
2												
3												
4												
5												
6												
7												
8												
9												
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21												
22												
23												

CHAPTER III

ANALYSIS OF DATA

To gather this data, the writer observed the creative activity periods of the three-year-old and the four-year-old group. The procedure used in this study is similar to the experiments of Bridges[1] in the nursery school at McGill University in 1927 as the subjects had the freedom of choice (of materials used in this study) and were allowed to use the material as long as they desired to do so. However, the observer required each child to return all the material to the table before taking more. The observer recorded the name of the material each subject selected and the times the subject started and finished with the material.

One limitation on the observations must be noted. Many of the children asked for certain materials but were unable to use them because (a) it was the end of the period, (b) not enough material, or (c) not enough room to use materials.

The following tables summarize the observations of this study. Table I shows the number of times the three-year-olds chose each material during the twenty observational periods. The first choice of the group was cutting and pasting, chosen 68 times; second, clay, 49; third, crayons, 41; fourth, beads, 38; fifth, easel paint, 33; sixth, finger paint, 32; seventh, books, 13; eighth, blocks, 8; and last choice, cutting, only 2. It is interesting to note that easel paint was chosen only once more than finger paint.

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1. Bridges, K. M. B., "Occupational Interests of Three Year Old Children," J. Genetic Psychology, 1927, 34:415-423. "Occupational Interests of Four Year Old Children," J. Genetic Psychology, 1929, 36:551-569.

TABLE I

TIMES CHOSEN BY

THREE-YEAR-OLD GROUP

SUBJECTS	CUTTING ONLY	CUTTING AND PASTING	FINGER PAINT	EASEL PAINT	BLOCKS	BEADS	CRAYONS	CLAY	BOOKS
Lorraine A.		7				4	4	5	
Thomas C.		8	1	1		5	2	9	
Mary Ann C.		7	7	4	1	7	1	1	1
Mary D.		9	5	3			9	3	1
Sandra L.		10	3	4	2	5	5	9	5
James M.		11	4	4	2	6	7	7	1
John R.	2	9	5	9	1	4	3	9	1
Robert W.		2	7	7	1	3	2	2	2
June W.		4			1	2	5	1	1
Bruce W.		1		1		2	3	3	1
TOTALS	2	68	32	33	8	38	41	49	13

The summary of the frequency of materials chosen was broken down to show the comparison of the number of times each activity was chosen for the boys and for the girls in Table II. The first four choices of the boys were: first, cutting and pasting, 31; second, clay, 30; third, easel paint, 22; and fourth, beads, 20; in comparison to the girls choices: first, cutting and pasting, 37; second, crayons, 24; third, clay, 19; and fourth, beads, 18. This shows that of these there is little sex difference between the choices of play materials for this three-year-old group studied. The remaining activities less frequently chosen are: finger paint - boys 17, girls 15; easel paint (while third choice for boys, was not one of the first four choices for the girls) - boys 22, girls 11; crayons (was second choice for the girls but not one of the first four choices for the boys) - boys 17, girls 24; books - boys 5, girls 8; blocks - boys and girls the same, 4; and cutting only - boys 2, girls 0.

TABLE II

Comparison of the number of times each activitywas chosen by boys and girls

THREE YEAR OLD GROUP

	ACTIVITY	BOYS (5)	GIRLS (5)
1.	CUTTING AND PASTING	31	37
2.	CLAY	30	19
3.	EASEL PAINT	22	11
4.	BEADS	20	18
5.	FINGER PAINT	17	15
6.	CRAYONS	17	24
7.	BOOKS	5	8
8.	BLOCKS	4	4
9.	CUTTING ONLY	2	0

Table III summarizes the number of minutes each material was used in the three-year-old group. Table IV summarizes and compares the time spent in each activity for the boys and girls. Table III shows the following results of the length of time for each activity: the greatest length of time in the three-year-old group was spent on cutting and pasting, 602 minutes; next was easel paint, 341 minutes; then clay, 328½ minutes; beads, 325½ minutes; crayons, 259; minutes; finger paint, 234 minutes; books, 80 minutes; blocks, 56 minutes; and last, cutting only, 10 minutes. Although clay was the second choice of material for this group, more time was spent with easel paint which was number five - easel paint, 341 minutes and clay, 328½ minutes.

TABLE III

NUMBER OF MINUTES EACH MATERIAL WAS USED

THREE YEAR OLD GROUP

SUBJECTS	CUTTING ONLY	CUTTING AND PASTING	FINGER PAINT	EASEL PAINT	BLOCKS	BEADS	CRAYONS	CLAY	BOOKS
Lorraine A.		69				30	16	43	15
Thomas C.		68	5	15		46	6	68	
Mary Ann C.		78	73	64	10	71	11	3	2
Mary D.		103	40	19		53	69	22	2
Sandra L.		54	6	16	14	11	12	45½	18
James M.		57	24	41	14	33	35	56	7
John R.	10	81	17	96	9	18	7	48	4
Robert W.		43	64	85	5	25	25		23
June W.		35			4	13½	49½	3	5
Bruce W.		14		5		25	29	40	4
TOTALS	10	602	234	341	56	325½	259½	328½	80

In Table IV we note that the following four activities were used for the greatest length of time: boys - first, cutting and pasting, 263 minutes; second, easel paint, 242 minutes; third, clay, 212 minutes; and beads, 137 minutes; for the girls - first, cutting and pasting, 329 minutes; second, beads, 178; minutes; third, crayons, 157 minutes; and fourth, finger paint, 119minutes. Less time was spent with the following materials: finger paint - boys 115, girls 119 (it was fourth place in length of time for the girls but fifth place for boys); crayons - girls 157½, boys 102 (third place for the girls and sixth place for the boys); books - boys 38, girls 42; blocks, both sexes the same, 28; cutting only - boys 10, girls 0.

TABLE IV

Comparison of the time spent in each activity for the boys and girls

THREE YEAR OLD GROUP

	ACTIVITY	BOYS (5)	GIRLS (5)
1.	CUTTING AND PASTING	263	329
2.	EASEL PAINT	242	99
3.	CLAY	212	116½
4.	BEADS	137	178½
5.	FINGER PAINT	115	119
6.	CRAYONS	102	157½
7.	BOOKS	38	42
8.	BLOCKS	28	28
9.	CUTTING ONLY	10	0

TABLE IV

Comparison of the time spent
in each activity for the boys
and girls

THEIR TWO OLD GROUP

	ACTIVITY	BOYS (b)	GIRLS (g)
1.	CUTTING AND TACKING	868	829
2.	BASIC SEWING	842	99
3.	CLAY	712	116½
4.	BEADS	187	176½
5.	FINGER PAINT	112	112
6.	CRAYONS	102	187½
7.	BOOKS	99	42
8.	BLOCKS	38	38
9.	CUTTING ONLY	12	0

Table V shows the number of times the four year olds chose each material. Cutting and pasting has been further classified as: cutting and tracing, cutting, tracing and pasting; pasting only; cutting only; cutting and pasting. These items are summarized in the foregoing manner as many children chose only part of the activity and other did tracing which wasn't considered originally. As a result of considering each part separately we find the first choice was blocks, 145 times; second, easel paint, 116; third, finger paint, 102; fourth, clay, 98. These are the first four choices. If all cutting, pasting and tracing were considered as one it would only be fifth choice with 93 choices. Materials chosen less frequently were crayons, 79; cutting and pasting, 64; beads, 57; books, 54.

TABLE V

TIMES CHOSEN

FOUR-YEAR-OLD GROUP

SUBJECTS NAME	CUTTING, TRACING AND PASTING	CUTTING AND TRACING	PASTING ONLY	CUTTING ONLY	CUTTING AND PASTING	FINGER PAINT	EASEL PAINT	BLOCKS	BEADS	CRAYONS	CLAY	BOOKS
Danny C.		7	1		4	3	5	10	2		4	3
Michael C.					1	7	5	14	2	1	2	4
David D.					4	5	11	20	5	5	9	1
Barbara F.	1	6			5	10	7	12	2	9	2	8
Thomas H.		1		1	4	4	9	10	2	4	7	1
Helen K.					1	5	12		10	1	9	
Billie L				2	3	18	15	24	11	12	15	4
Victor P.	1			1	3	9	8	10	3	9	7	4
Barry R.					8-	6	10	8	2	6	4	3
Pauline R.		1		4	12	14	11	7	6	11	17	13
Gerry S.		1		2	7	12	13	13	6	8	10	6
Howard W.					4	6	4	17	3	2	7	7
Layette W.					8	3	6		3	11	5	
TOTALS	2	16	1	10	64	102	116	145	57	79	98	54

The comparison of the number of times each activity was chosen for four-year-old boys and girls is shown in Table VI. The first four choices for the boys are: first, blocks, 113 times; easel paint, 67; finger paint, 58; and clay, 55. For the girls the first choice is easel paint, 47 times; second, finger paint, 44; clay, 43; and crayons, 40. Less frequent choices are crayons - boys 39, girls 40 (crayons was fourth choice of girls and fifth choice for the boys; it was chosen only once more by the girls); cutting and pasting - boys 31, girls 33; beads - boys 30, girls 27; books - the same for both sexes, 8; cutting only - boys 4, girls 6; tracing, cutting and pasting - the same for both sexes, 1; and pasting only - boys 1, girls 0.

TABLE VI

Comparison of the number of times each activity was chosen for Boys and Girls

FOUR YEAR OLD GROUP

	ACTIVITY	BOYS	GIRLS
1.	BLOCKS	113	32
2.	EASEL PAINT	67	47
3.	FINGER PAINT	58	44
4.	CLAY	55	43
5.	CRAYONS	39	40
6.	CUTTING AND PASTING	31	33
7.	BEADS	30	27
8.	BOOKS	27	27
9.	CUTTING AND TRACING	8	8
10.	CUTTING ONLY	4	6
11.	TRACING, CUTTING & PASTING	1	1
12.	PASTING ONLY	1	0

Table VII shows the number of minutes each material was used in the four-year-old group. The longest length of time was spent with blocks, 3338 minutes (over twice the length of time spent with any other activity); next, easel paint, 1344 minutes; then clay, 1336 minutes; finger paint, 987½. Materials used for a shorter length of time were crayons, 966 minutes; cutting and pasting, 964; beads, 879; books, 626½; tracing and cutting, 377; tracing, cutting and pasting, 57; cutting only, 55; and pasting only, 20. If cutting, pasting and all the phases of them in this study were combined for the four-year-old group, blocks would be first with 3338 minutes and cutting and pasting second with 1473 minutes.

TABLE VII

NUMBER OF MINUTES EACH MATERIAL WAS USED

FOUR-YEAR-OLD GROUP

SUBJECTS NAME	CUTTING, TRACING AND PASTING	TRACING AND CUTTING	PASTING ONLY	CUTTING ONLY	CUTTING AND PASTING	FINGER PAINT	EASEL PAINT	BLOCKS	BEADS	CRAYONS	CLAY	BOOKS
Danny C.		210	20		37	37	49	307	21		58	59
Michael C.					7	111	57	436	38	10	34	40
David D.					36	25	84	449	83	64	131	5
Barbara F.	40	101			99	96½	127	231	15	64	25	74
Thomas H.		21		6	96	48	130	260	39	57	134	10
Helen K.					16	48	130	260	39	57	134	10
Billie L.				5	23	96	108	426	139	80	123	15
Victor P.	17			6	31	74	59	263	22	83	66	27
Barry R.					134	75	158	157	32	77	47	21
Pauline R.		25		17	143	184	114	61	67	95	98	114½
Gerry S.		20		21	108	88	164	274	86	112	140	55
Howard W.					54	58	56	474	50	49	183	206
Layette W.					180	47	81		41	266	134	
TOTALS	57	377	20	55	964	987½	1344	3338	879	966	1336	626½

Table VIII shows the time spent in each activity by sex. The first four longest worked at materials for the boys are: first, blocks, 2762 minutes (more than doubled the girls); second, clay, 776; third, easel paint, 701; and fourth, finger paint, 524. The girls worked longest at easel paint, 643 minutes; then blocks, 566; next, clay, 560; and crayons, 547 (cutting and pasting, one minute less). Materials used for a shorter time are beads - boys 424, girls 455; cutting and pasting - boys 418, girls 546; crayons - boys 419, girls 547 (fourth place, girls; sixth for boys); books - boys 383, girls 243½; tracing and cutting - boys 231, girls 146; pasting only - boys 20, girls 0; tracing, cutting and pasting - boys 17, girls 40; and cutting only - boys 18, girls 38. Finger paint was fourth for the boys (524) and sixth for the girls (464½).

TABLE VIII

COMPARISON OF THE TIME SPENT
IN EACH ACTIVITY FOR THE
BOYS AND GIRLS

FOUR YEAR OLD GROUP

	ACTIVITY	BOYS (8)	GIRLS (5)
1.	BLOCKS	2762	566
2.	CLAY	776	560
3.	EASEL PAINT	701	643
4.	FINGER PAINT	524	464½
5.	BEADS	424	455
6.	CRAYONS	419	547
7.	CUTTING AND PASTING	418	546
8.	BOOKS	383	243½
9.	TRACING AND CUTTING	231	146
10.	PASTING ONLY	20	0
11.	TRACING, CUTTING AND PASTING	17	40
12.	CUTTING ONLY	18	38

CHAPTER IV

SUMMARY AND CONCLUSIONS

The foregoing tables show that with the three-year-old children in this study cutting and pasting and clay and beads were the first four choices in the length of time the material was used. Cutting and pasting was first choice for both boys and girls, and they were engaged in this activity twice as long as any activity. Observations show that clay was in second place for boys and third place for girls. With the exception of beads which were one of the girls' first four choices, the attention span or length of time spent with materials and their choice of materials seem to be about the same.

The boys in this study chose materials more often than the girls. In the three-year-old group, where the average creative activity period was 21.9 minutes for 20 days, there were less choices of materials than with the four-year-old boys whose observation-period average was 55.13 minutes for 23 days. The girls appear to work longer as a group on material chosen than the boys. However, the length of time spent with material greatly increased in the four-year-old group in comparison with the three-year-old group. The four year olds appeared to be much more interested and creative with the materials. Many observations showed the four year olds working with the same occupation three and four times longer than the three-year-old groups.

The three year olds in this study rarely worked with a material more than 15 minutes; the longest time for these children seemed to be around 8 minutes. In the four-year-old group the children very often worked

CHAPTER IV

SUMMARY AND CONCLUSIONS

45 to 60 minutes with one activity, but most of them worked between 15 and 25 minutes at an occupation.

Easel Paint, finger painting, and clay working are popular in this study with both girls and boys of the four-year-old group, and considered one of first four choices. Easel Paint was first with the girls and third with the boys. Blocks were not included in the first four choices for the girls. This study shows that they did not choose blocks often, and the fact that there are three less girls than boys may have something to do with it.

Both three- and four-year-old children showed great interest in creative work. They asked to continue with the materials. It was impossible to do so as they had to wash for lunch and have their morning rest. The writer gave them another creative-activity period in the afternoon when they desired it but this time is not included in this study.

There appears to be little sex differences in creative interests with young children. There is some preference but it is not significant. The desire for self-expression seems to be deep-seated; therefore, toys and materials should be carefully selected so that the child may be able to create and to be free to express himself to aid his social development. The attention-span of the four-year-old children is greater than that of the three year olds. This shows that attention-span, or interest-span, increases from year to year. Although all the children were interested in the creative activities there were individual differences in choice of material and length of time spent which are indicated by the tables. This varies in relation to age and with the materials. Some children did not

use all the materials during the observation; some used certain materials almost exclusively. The subjects in this study were free to choose any material and use it for any length of time. This is all right for experimental purposes but the tables bring out the fact that some children will not venture to new materials easily or at all if left alone. The child should be guided and encouraged to express himself.

The non-English-speaking child feels more secure and part of the group during the creative-activity period than at any other period. Here language is no barrier. The nervous child becomes so fascinated with the different creative materials that he loses his tension and becomes relaxed. Pre-school children appear never to grow tired of these materials. Previous experiences with the materials does not affect the interest in the materials.

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CHAPTER V

SUGGESTIONS FOR FURTHER RESEARCH

1. A study of creative activities as an aid to social adjustment.
2. A survey of the best art materials for various levels.
3. A study of creative activities in the social, emotional, and intellectual lives of pre-school children.
4. Systematic information on pre-school children's ability to perform and appreciate art.
5. Other studies like this one also including five year olds or a study on the elementary level.
6. Research on creative activities as a basis of building a pre-school art curriculum.
7. Another study like this for a longer period.
8. A study of the interest and choice of materials of blind and normal pre-school children.
9. A study of the comparison of interest and choice of materials of children of low social-economic family status and those of high social-economic family status.

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